

CONCLUSION

Based upon the above remarks, Applicant respectfully believes the current rejections should be withdrawn. The Examiner is therefore respectfully requested to reconsider and withdraw the rejections, and allow pending claims 1-19. Favorable action with an early allowance of the claims pending in this application is earnestly solicited.

The Examiner is welcomed to telephone the undersigned practitioner if she has any questions or comments, or such action would expedite prosecution of this application.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 on December 1, 2008.

  
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Date



**ATTACHMENT A**

1. (Currently Amended): A fibre for thermal bonding comprising a propylene polymer composition (A) having an MFR value from 4 to 50 g/10 min, the propylene polymer composition (A) comprising and being selected from:

- ~~i) a crystalline propylene random copolymer or a crystalline propylene polymer composition selected from:~~
  - ~~a) a copolymer or polymer composition containing at least 0.8% by weight of ethylene and optionally at least one of C<sub>4</sub>-C<sub>10</sub>  $\alpha$  olefins and having a melting temperature of 155° C or higher, a content of fraction soluble in xylene at room temperature lower than 5% by weight, a value of the ratio of the polymer fraction collected at the temperature range from 25° to 95°C by temperature rising elution fractionation (TREF) with xylene to the xylene soluble fraction, higher than 8; and~~
  - ~~b) a copolymer or polymer composition containing more than 2.5 wt% by weight of ethylene and optionally at least one of C<sub>4</sub>-C<sub>10</sub>  $\alpha$  olefins and having a melting temperature of 153° C or higher, a content of fraction soluble in xylene at room temperature lower than 10% by weight and a value of the ratio of the polymer fraction collected at the temperature range from 25° to 95°C by TREF with xylene to the xylene soluble fraction at room temperature, higher than 4; and~~
- ii) a crystalline propylene polymer composition having a melting temperature of 153° C or higher, a content

of fraction soluble in xylene at room temperature lower than 10% by weight; the composition containing at least one of (1) at least 0.64 wt% of ethylene and (2) C<sub>4</sub>-C<sub>10</sub> α-olefin recurring unit and comprising (percent by weight):

- I) 20-80% of at least one of a crystalline propylene homopolymer and a crystalline propylene random copolymer containing at least one of (i) up to 1.5% by weight of ethylene and (ii) C<sub>4</sub>-C<sub>10</sub> α-olefin; and
- II) 20-80% of a crystalline random copolymer selected from:

- IIa) a copolymer of propylene with 0.8 to 10% by weight of ethylene; provided that the difference in the ethylene content between polymer I) and polymer IIa) is at least 0.8 percentage unit with respect to the weight of the (co)polymer concerned; and

- IIb) a copolymer of propylene with 1.5 to 18% by weight of a C<sub>4</sub>-C<sub>10</sub> α-olefin and optionally ethylene; provided that the difference in the comonomer content between polymer I) and polymer IIb) is at least 1.5 percentage units with respect to the weight of the (co)polymer concerned; and

- IIc) a mixture of copolymer IIa) and copolymer IIb).

2. (Previously Presented): The fibre of claim 1 wherein the polymer composition ii) has a melting temperature of 155° C or higher, a content of fraction soluble in xylene at room temperature lower than 5% by weight and a value of the

ratio of the polymer fraction collected at the temperature range from 25° to 95° C by TREF with xylene to the xylene soluble fraction higher than 8; the said composition containing at least one of (1) at least 0.64 wt% of ethylene and (2) C<sub>4</sub>-C<sub>10</sub> α-olefin recurring unit and comprising (percent by weight):

- I) 20-80% of at least one of a crystalline propylene homopolymer and a crystalline propylene random copolymer containing at least one of (i) up to 1.5% by weight of ethylene and (ii) C<sub>4</sub>-C<sub>10</sub> α-olefin; and
- II) 20-80% of a crystalline random copolymer selected from:

- IIa) a copolymer of propylene with 0.8 to 5% by weight of ethylene; provided that the difference in the ethylene content between polymer I) and polymer IIa) is at least 0.8 percentage unit with respect to the weight of the (co)polymer concerned;

- IIb) a copolymer of propylene with 1.5 to 12% by weight of a C<sub>4</sub>-C<sub>10</sub> α-olefin and optionally ethylene; provided that the difference in the comonomer content between polymer I) and polymer IIb) is at least 1.5 percentage units with respect to the weight of the (co)polymer concerned; and

- IIc) a mixture of copolymer IIa) and copolymer IIb).

3. (Previously Presented): The fibre of claim 1 wherein the polymer composition has MFR values from 6 to 15 g/10 min.

4. (Previously Presented): The fibre of claim 1 wherein the difference in the ethylene content between polymer I) and polymer IIa) is at least 1 percentage unit with respect to the weight of the (co)polymer concerned.

5. (Previously Presented): The fibre of claim 1 having a value of bonding force at 150° C of at least 300 cN.

6. (Previously Presented): The fibre of claim 5 obtained by a spinning process wherein the composition is subjected to an extrusion temperature of at most 275° C.

7. (Previously Presented): The fibre of claim 5 having a bonding force value of 300 to 800 cN and an MFR value of 50 g/10 min or less and being obtained by a spinning process wherein the composition is subjected to an extrusion temperature of at most 275° C.

8. (Previously Presented): The fibre of claim 6 wherein the extrusion temperature ranges from 260° to 275° C.

9. (Withdrawn): A melt spin process for the production of a fibre for thermal bonding comprising a propylene polymer composition having an MFR value from 4 to 50 g/10 min and being selected from:

- i) a crystalline propylene random copolymer or a crystalline propylene polymer composition selected from:

- a) a copolymer or polymer composition containing at least 0.8% by weight of ethylene and optionally at least one of C<sub>4</sub>-C<sub>10</sub>  $\alpha$ -olefins and having a melting temperature of 155° C or higher, a

content of fraction soluble in xylene at room temperature lower than 5% by weight, a value of the ratio of the polymer fraction collected at the temperature range from 25° to 95° C by TREF with xylene to the xylene soluble fraction, higher than 8; and

- b) a copolymer or polymer composition containing more than 2.5 wt% by weight of ethylene and optionally at least one of C<sub>4</sub>-C<sub>10</sub>  $\alpha$ -olefins and having a melting temperature of 153° C or higher, a content of fraction soluble in xylene at room temperature lower than 10% by weight and a value of the ratio of the polymer fraction collected at the temperature range from 25° to 95°C by TREF with xylene to the xylene soluble fraction at room temperature, higher than 4; and
- ii) a crystalline propylene polymer composition having a melting temperature of at least 153° C or higher, a content of fraction soluble in xylene at room temperature lower than 9% by weight; the said composition containing at least one of (1) at least 0.64 wt% of ethylene and (2) C<sub>4</sub>-C<sub>10</sub>  $\alpha$ -olefin recurring unit and comprising (percent by weight):
  - I) 20-80% of at least one of a crystalline propylene homopolymer and a crystalline propylene random copolymer containing at least one of (i) up to 1.5% by weight of ethylene and (ii) C<sub>4</sub>-C<sub>10</sub>  $\alpha$ -olefin; and:
  - II) 20-80%, preferably from 30-70%, of a crystalline random copolymer selected from:
    - IIa) a copolymer of propylene with 0.8 to 10% by weight of ethylene; provided that the

difference in the ethylene content between polymer I) and polymer IIa) is at least 0.8 percentage unit with respect to the weight of the (co)polymer concerned;

IIb) a copolymer of propylene with 1.5 to 18% by weight of a C<sub>4</sub>-C<sub>10</sub> α-olefin and optionally ethylene; provided that the difference in the comonomer content between polymer I) and polymer IIb) is at least 1.5 percentage units with respect to the weight of the (co)polymer concerned; and

IIc) a mixture of copolymer IIa) and copolymer IIb.

10. (Withdrawn): The process of claim 9 wherein polymer composition ii) has a melting temperature of 155° C or higher, a content of fraction soluble in xylene at room temperature lower than 5% by weight, a value of the ratio of the polymer fraction collected at the temperature range from 25° to 95° C by TREF with xylene to the xylene soluble fraction, higher than 8; the said composition containing at least one of (1) at least 0.64 wt% of ethylene and (2) C<sub>4</sub>-C<sub>10</sub> α-olefin recurring unit and comprising (percent by weight):

I) 20-80% of at least one of a crystalline propylene homopolymer and a crystalline propylene random copolymer containing at least one of (i) up to 1.5% by weight of ethylene and (ii) C<sub>4</sub>-C<sub>10</sub> α-olefin; and

II) 20-80% of a crystalline random copolymer selected from:

IIa) a copolymer of propylene with 0.8 to 5% by weight of ethylene; provided that the difference

in the ethylene content between polymer I) and polymer IIa) is at least 0.8 percentage unit with respect to the weight of the (co)polymer concerned;

IIb) a copolymer of propylene with 1.5 to 12% by weight of a  $C_4$ - $C_{10}$   $\alpha$ -olefin and optionally ethylene; provided that the difference in the comonomer content between polymer I) and polymer IIb) is at least 1.5 percentage units with respect to the weight of the (co)polymer concerned; and

IIc) a mixture of copolymer IIa) and copolymer IIb).

11. (Withdrawn): The process of claim 9 wherein the composition is extruded at a temperature of at most 275° C.

12. (Withdrawn): The process of claim 11 wherein the composition is extruded at a temperature ranging from 260° to 275° C.

13. (Currently Amended): A thermally bonded non-woven fabric comprising fibres comprising a propylene polymer composition (A) having an MFR value from 4 to 50 g/10 min, the propylene polymer composition (A) comprising and being selected from:

~~i) a crystalline propylene random copolymer or a crystalline propylene polymer composition selected from:~~

~~a) a copolymer or polymer composition containing at least 0.8% by weight of ethylene and optionally at least one of  $C_4$ - $C_{10}$   $\alpha$ -olefins and having a~~



~~melting temperature of 155° C or higher, a content of fraction soluble in xylene at room temperature lower than 5% by weight, a value of the ratio of the polymer fraction collected at the temperature range from 25° to 95°C by temperature rising elution fractionation (TREF) with xylene to the xylene soluble fraction, higher than 8; and~~

~~b) a copolymer or polymer composition containing more than 2.5 wt% by weight of ethylene and optionally at least one of C<sub>4</sub>-C<sub>10</sub> α-olefins and having a melting temperature of 153° C or higher, a content of fraction soluble in xylene at room temperature lower than 10% by weight and a value of the ratio of the polymer fraction collected at the temperature range from 25° to 95°C by TREF with xylene to the xylene soluble fraction at room temperature, higher than 4; and~~

ii) a crystalline propylene polymer composition having a melting temperature of at least 153° C, a content of fraction soluble in xylene at room temperature lower than 10% by weight; the composition containing at least one of (1) at least 0.64 wt% of ethylene and (2) C<sub>4</sub>-C<sub>10</sub> α-olefin recurring unit and comprising (percent by weight):

I) 20-80% of at least one of a crystalline propylene homopolymer and a crystalline propylene random copolymer containing at least one of (i) up to 1.5% by weight of ethylene and (ii) C<sub>4</sub>-C<sub>10</sub> α-olefin; and

II) 20-80% of a crystalline random copolymer selected from:

- IIa) a copolymer of propylene with 0.8 to 10% by weight of ethylene; provided that the difference in the ethylene content between polymer I) and polymer IIa) is at least 0.8 percentage unit with respect to the weight of the (co)polymer concerned; and
- IIb) a copolymer of propylene with 1.5 to 18% by weight of a C<sub>4</sub>-C<sub>10</sub> α-olefin and optionally ethylene; provided that the difference in the comonomer content between polymer I) and polymer IIb) is at least 1.5 percentage units with respect to the weight of the (co)polymer concerned; and
- IIc) a mixture of copolymer IIa) and copolymer IIb).

14. (Currently Amended): A composite non-woven fabric comprising two or more layers wherein at least one layer is made of thermally bonded non-woven fabric comprising fibres comprising a propylene polymer composition (A) having an MFR value from 4 to 50 g/10 min, the propylene polymer composition (A) comprising and being selected from:

~~i) a crystalline propylene random copolymer or a crystalline propylene polymer composition selected from:~~

~~a) a copolymer or polymer composition containing at least 0.8% by weight of ethylene and optionally at least one of C<sub>4</sub>-C<sub>10</sub> α-olefins and having a melting temperature of 155° C or higher, a content of fraction soluble in xylene at room temperature lower than 5% by weight, a value of the ratio of the polymer fraction collected at~~

~~the temperature range from 25° to 95°C by temperature rising elution fractionation (TREF) with xylene to the xylene soluble fraction, higher than 8; and~~

~~b) a copolymer or polymer composition containing more than 2.5 wt% by weight of ethylene and optionally at least one of C<sub>4</sub>-C<sub>10</sub> α olefins and having a melting temperature of 153° C or higher, a content of fraction soluble in xylene at room temperature lower than 10% by weight and a value of the ratio of the polymer fraction collected at the temperature range from 25° to 95°C by TREF with xylene to the xylene soluble fraction at room temperature, higher than 4; and~~

ii) a crystalline propylene polymer composition having a melting temperature of 153° C or higher, a content of fraction soluble in xylene at room temperature lower than 10% by weight; the composition containing at least one of (1) at least 0.64 wt% of ethylene and (2) C<sub>4</sub>-C<sub>10</sub> α-olefin recurring unit and comprising (percent by weight):

I) 20-80% of at least one of a crystalline propylene homopolymer and a crystalline propylene random copolymer containing at least one of (i) up to 1.5% by weight of ethylene and (ii) C<sub>4</sub>-C<sub>10</sub> α-olefin; and

II) 20-80% of a crystalline random copolymer selected from:

IIa) a copolymer of propylene with 0.8 to 10% by weight of ethylene; provided that the difference in the ethylene content between polymer I) and polymer IIa) is at least 0.8

percentage unit with respect to the weight of the (co)polymer concerned; and

IIb) a copolymer of propylene with 1.5 to 18% by weight of a  $C_4$ - $C_{10}$   $\alpha$ -olefin and optionally ethylene; provided that the difference in the comonomer content between polymer I) and polymer IIb) is at least 1.5 percentage units with respect to the weight of the (co)polymer concerned; and

IIc) a mixture of copolymer IIa) and copolymer IIb).

15. (Withdrawn): A process for the production of non-woven fabric comprising thermalbonding fibres which comprises a propylene polymer composition (A) having an MFR value from 4 to 50 g/10 min, and being selected from:

i) a crystalline propylene random copolymer or a crystalline propylene polymer composition selected from:

a) a copolymer or polymer composition containing at least 0.8% by weight of ethylene and optionally at least one of  $C_4$ - $C_{10}$   $\alpha$ -olefins and having a melting temperature of at least 155° C, a content of fraction soluble in xylene at room temperature lower than 5% by weight, a value of the ratio of the polymer fraction collected at the temperature range from 25° to 95°C by temperature rising elution fractionation (TREF) with xylene to the xylene soluble fraction, higher than 8; and

b) a copolymer or polymer composition containing more than 2.5 wt% by weight of ethylene and

optionally at least one of C<sub>4</sub>-C<sub>10</sub> α-olefins and having a melting temperature of 153° C or higher, a content of fraction soluble in xylene at room temperature lower than 10% by weight and a value of the ratio of the polymer fraction collected at the temperature range from 25° to 95°C by TREF with xylene to the xylene soluble fraction at room temperature, higher than 4; and

- ii) a crystalline propylene polymer composition having a melting temperature of 153° C or higher, a content of fraction soluble in xylene at room temperature lower than 10% by weight; the composition containing at least one of (1) at least 0.64 wt% of ethylene and (2) C<sub>4</sub>-C<sub>10</sub> α-olefin recurring unit and comprising (percent by weight):

I) 20-80% of at least one of a crystalline propylene homopolymer and a crystalline propylene random copolymer containing at least one of (i) up to 1.5% by weight of ethylene and (ii) C<sub>4</sub>-C<sub>10</sub> α-olefin; and

II) 20-80% of a crystalline random copolymer selected from:

IIa) a copolymer of propylene with 0.8 to 10% by weight of ethylene; provided that the difference in the ethylene content between polymer I) and polymer IIa) is at least 0.8 percentage unit with respect to the weight of the (co)polymer concerned; and

IIb) a copolymer of propylene with 1.5 to 18% by weight of a C<sub>4</sub>-C<sub>10</sub> α-olefin and optionally ethylene; provided that the difference in the comonomer content between

polymer I) and polymer IIb) is at least 1.5 percentage units with respect to the weight of the (co)polymer concerned; and

IIc) a mixture of copolymer IIa) and copolymer IIb).

16. (Withdrawn): A crystalline propylene polymer composition having an MFR value from 4 to 50 g/10 and at least one of an ethylene and a C<sub>4</sub>-C<sub>10</sub> α-olefin content of at least 0.64 wt% and comprising (percent by weight):

I) 20-80% of a crystalline propylene homopolymer or crystalline propylene random copolymer containing at least one of (i) up to 1.5% by weight of ethylene and (ii) C<sub>4</sub>-C<sub>10</sub> α-olefin; and

II) 20-80% of a crystalline random copolymer of propylene with higher than 5 to 9% by weight of ethylene;

the composition having a melting temperature of at least 153° C and a content of fraction soluble in xylene at room temperature lower than 9% by weight.

17. (Withdrawn): The composition of claim 16 having MFR values from 6 to 15 g/10 min.

18. (Withdrawn): A process for the polymerisation preparing the crystalline propylene polymer composition having an MFR value from 4 to 50 g/10 and at least one of an ethylene and a C<sub>4</sub>-C<sub>10</sub> α-olefin content of at least 0.64 wt% and comprising (percent by weight):

I) 20-80% of a crystalline propylene homopolymer or crystalline propylene random copolymer containing at

least one of (i) up to 1.5% by weight of ethylene and (ii) C<sub>4</sub>-C<sub>10</sub>  $\alpha$ -olefin; and

II) 20-80% of a crystalline random copolymer of propylene with higher than 5 to 9% by weight of ethylene;

the composition having a melting temperature of 153° C or higher and a content of fraction soluble in xylene at room temperature lower than 9% by weight; the process being carried out in at least two separate subsequent stages, wherein in at least two polymerisation stages the relevant monomers are polymerised to form polymer I) and in the other stage(s) the relevant monomers are polymerised to form polymer II), operating in each stage, except the first step, in the presence of the polymer formed and the catalyst used in the preceding stage.

19. (Previously Presented): The fibre of claim 7 wherein the extrusion temperature ranges from 260° to 275° C.